Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled)

2. (Currently amended) A transmitter according to claim [[1]] 10 wherein there are N antennas and a different set of sub-carriers separated by N sub-carriers is assigned to each of the plurality of antennas.

3. (Cancelled)

4. (Currently amended) A transmitter according to claim [[3]] 10 wherein the header OFDM symbols further contain multiplexed broadcasting sub-carriers for each of the plurality of antennas.

5. (Currently amended) A transmitter according to claim [[1]] 10, ~~adapted~~ operable to transmit a preamble having a prefix, followed by two identical OFDM symbols having said header OFDM symbol format.

6. (Original) A transmitter according to claim 5 wherein the prefix is a cyclic extension of the two identical OFDM symbols.

7. (Currently amended) A transmitter according to claim [[3]] 10 wherein the pilot channel sub-carriers have a BTS specific mapped complex sequence allowing efficient BTS identification.

8. (Currently amended) A transmitter according to any one of claims [[3]] 10 wherein the common synchronization channel is designed for fast and accurate initial acquisition.

9. (Currently amended) A transmitter according to claim [[3]] 10 wherein the common synchronization channel is used for course synchronization and fine synchronization and the pilot

channel is used for fine synchronization.

10. (Currently amended) A MIMO-OFDM transmitter operable to transmit a header symbol format in which sub-carriers of a header OFDM symbol are divided into a non-contiguous set of sub-carriers for each of a plurality of antennas, with each antenna transmitting the header OFDM symbol only on the respective set of sub-carriers;

wherein the header symbols contain a multiplexed dedicated pilot channel on dedicated pilot channel sub-carriers and common synchronization channel on common synchronization channel sub-carriers for each of the plurality of antennas;

~~A transmitter according to claim 3~~ wherein the common synchronization channel is used to transmit a complex sequence which is different for each transmit antenna of one transmitter, but which is common for respective transmit antennas of different transmitters within a communications network.

11. (Currently amended) A transmitter according to claim [[1]] 10 ~~adapted~~ operable to transmit OFDM frames beginning with said ~~preamble~~ header, and having scattered pilots throughout a remainder of the OFDM symbols in each OFDM frame.

12. (Currently amended) A transmitter according to claim [[1]] 10 wherein during the ~~preamble~~ header, for each of N transmit antennas, dedicated pilot channel sub-carriers are transmitted and common synchronization channel sub-carriers are transmitted and broadcasting channel sub-carriers are transmitted.

13. (Currently amended) A transmitter according to claim [[3]] 10 wherein the sub-carriers of the ~~preamble~~ header OFDM symbols are organized as a repeating sequence of [[{]]dedicated pilot channel for each of N transmit antennas, common synchronization channel sub-carrier for each of N transmit antennas[[}]] arranged in a predetermined order.

14. (Currently amended) A transmitter according to claim 4 wherein the sub-carriers of the ~~preamble~~ header OFDM symbols are organized as a repeating sequence of [[{]]at least one dedicated pilot channel sub-carrier for each of N transmit antennas, at least one common

synchronization channel sub-carrier for each of N transmit antennas, at least one broadcast channel sub-carrier[[}]] arranged in a predetermined order.

15. (Cancelled)

16. (Currently amended) A receiver according to claim 15 ~~adapted~~ operable to receive from N transmit antennas with a different set of sub-carriers separated by N sub-carriers assigned to each of the plurality of transmit antennas.

17. (Currently amended) A MIMO-OFDM receiver operable to receive a header symbol format in which sub-carriers of a header OFDM symbol are divided into a non-contiguous set of sub-carriers for each of a plurality of antennas, with each antenna transmitting the header OFDM symbol only on the respective set of sub-carriers;

~~A receiver according to claim 15~~ wherein the header OFDM symbols contain multiplexed dedicated pilot channel sub-carriers and common synchronization channel sub-carriers for each of the plurality of transmit antennas[[.]];

wherein the common synchronization channel is used to transmit a complex sequence which is different for each transmit antenna of one transmitter, but which is common for respective transmit antennas of different transmitters within a communications network.

18. (Original) A receiver according to claim 17 wherein the header OFDM symbols further contain multiplexed broadcasting carriers for each of the plurality of antennas.

19. (Currently amended) A receiver according to claim [[15]] 17 ~~adapted~~ operable to receive a preamble having a prefix, followed by two identical OFDM symbols having said header OFDM symbol format.

20. (Currently amended) A receiver according to claim [[15]] 17 wherein the dedicated pilot channel has a BTS specific mapped complex sequence, the receiver being ~~adapted~~ operable to perform BTS identification on the basis of the dedicated pilot channel.

21. (Currently amended) A receiver according to claim 19 wherein the dedicated pilot channel

have a BTS specific mapped complex sequence, the receiver being ~~adapted~~ operable to perform BTS identification on the basis of the dedicated pilot channel.

22. (Currently amended) A receiver according to claim 21 wherein the header OFDM symbols contain multiplexed dedicated pilot channel sub-carriers and common synchronization channel sub-carriers for each of the plurality of transmit antennas, the receiver being further ~~adapted~~ operable to perform course synchronization on the common synchronization channel by looking for a correlation peak between consecutive OFDM symbols which are identical.

23. (Currently amended) A receiver according to claim 22 further ~~adapted~~ operable to perform fine synchronization on the basis of the common synchronization channel sub-carriers and/or the dedicated pilot channel sub-carriers.

Claims 24 - 56 (Cancelled)

57. (Previously presented) A method comprising:

transmitting an OFDM preamble comprising a prefix followed by a plurality of correlated header symbols.

58. (Previously presented) The method of claim 57 wherein the prefix is a cyclic repetition of a portion of one of the header symbols.

59. (Previously presented) The method of claim 57 wherein the plurality of correlated header symbols comprises two header symbols.

60. (Previously presented) The method of claim 57 wherein the plurality of correlated header symbols comprises two identical symbols.

61. (Previously presented) The method of claim 57 wherein the plurality of correlated header symbols comprises two identical symbols, and wherein the prefix is a cyclic repetition of one of the header symbols.